

**Testimony of Dr. John McTague
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U.S. House Government Reform Subcommittee on National Economic Growth,
Natural Resources, and Regulatory Affairs
Washington, DC
July 15, 1998**

I'm pleased to be here today to talk about advanced automotive technology. It's a great story. We're proud of our successes in this area and of the investments we're making that will assure future successes.

The pace of technology development in the auto industry has accelerated. Our customers put a high priority on efficient, environmentally-friendly and safe products. Our future depends on our ability to provide products that meet these needs at affordable prices and without sacrificing utility and other customer needs. There's a swift competitive race among manufacturers to be the best.

Ford is committed to being a leader in this race and is undertaking a broad range of initiatives to reduce the environmental impact of our plants and our products and continually enhance their safety. Let me give you some examples, a few of which are noted on the board to my side.

- Ford is the leader in the sales of vehicles that operate on alternative fuels, such as ethanol and LPG, which can reduce CO₂ emissions by 20-25% versus gasoline. Ford offers the industry's broadest range of alternative fuel vehicles -- last year, we accounted for more than 90% of alt-fuel vehicle sales. One of our most popular vehicles, the Ford Ranger, is now also offered as an electric vehicle.

- We recently unveiled the Ford P2000, a Taurus-sized research vehicle that weighs nearly 40% less than today's model and is capable of achieving 63 miles per gallon. This vehicle is Ford's testing platform for a variety of advanced powertrains like compression ignition diesel, hybrids and fuel cells, and is an outgrowth of our commitment to the joint government/industry Partnership for a New Generation of Vehicles R&D program.
- Ford has teamed with Ballard Power Systems and Daimler-Benz in a partnership to accelerate the development of fuel-cell-powered components for cars and trucks. It represents nearly a \$1 billion investment by the three companies.
- We've formed a strategic alliance with Mobil Corporation to speed the integration of breakthrough fuel and vehicle technologies.
- All Ford sport utility vehicles – including the Ford Explorer, Mercury Mountaineer, Ford Expedition and Lincoln Navigator – and the Ford Windstar minivan will be sold nationally as Low Emission Vehicles starting this fall.
- We are combining our advancements in energy technology with our continuing efforts that build on Ford's safety leadership. Ford has more top safety ratings than any other manufacturer. Also, we recently announced that beginning with the Mercury Cougar, Ford will install side air bags throughout its North American car lineup and in Windstar minivans.

These initiatives represent a huge R&D commitment. Ford and GM combined spend about \$14.5 billion annually in R&D. In fact, we make the two largest private sector R&D investments in the world, whose sum is larger than NIH or DOE's national

laboratories or NASA, and some eight times the federal investment in global climate change research.

But while I'm optimistic about our progress and that we are working on the right technologies for the future, I'm concerned that Government policy is not consistent and may well lead us in directions that will actually impede progress.

Today's vehicle is a complex system. I remember my first new car, a 1962 Ford Falcon. It had four cylinders, a manual throttle that the customer used to control air/fuel ratios, lots of room in the engine compartment and got 17 mpg. It was a series of parts that were essentially independent of each other.

Today's comparable vehicle to my Ford Falcon is the Ford Contour at 28 mpg and all its systems are integrated. Today's vehicle must meet hundreds of emissions, fuel economy and safety specifications. The electronic engine controls determine air/fuel ratios, acceleration, and velocity. Sensors control airbag velocity. There are so many interactions that individually optimizing subsystems gives the wrong answers.

I am concerned that today's government policy is based on optimizing subsystems. For example, advanced diesel engines are the best bet for fuel economy for the next decade, but regulators are considering new emissions standards that may be out of reach for this technology – based on incomplete data on particulate emissions. Other possible emission standards, such as new NO_x levels, may preclude a number of promising technologies such as lean burn and direct injection. Another issue is the need for clean fuels, particularly low sulfur gasoline and clean diesel, which are critical to the introduction of all advanced technology vehicles.

At the plant level, the permitting processes are a major hurdle. In 1991, Ford began an energy conversion project at our Wayne Stamping plant. Our objective was to use garbage gas to generate electricity. The project took five years – twice as long as projected -- because of the significant regulations and paperwork.

Also, while Ford manufacturing energy usage declined 25% in recent years, this trend was reversed when Ford plants were forced to go to water-based paint to meet emissions regulations.

Currently, there is no system and little incentive to recognize these tradeoffs among various societal goals and deal with them in an efficient manner. So the industry's aggressive high tech initiatives face a climate fraught with regulatory uncertainty.

Perhaps the greatest threat to this technology development is the Kyoto Protocol. Although climate change is being treated as a crisis, it is not. There is reason for concern, but the response timeframe is decades, perhaps half a century. We are currently making policy decisions in the face of great uncertainty about the 1% or so of temperature that may be related to human influence.

Meanwhile, the Protocol's rigid timetables threaten significant disruption to sound technological development. Invention never comes in on schedule -- sometimes earlier, sometimes later, but never precisely when anticipated.

Further, no matter how fast new technology is developed, it takes decades for it to displace today's technology. As a practical matter, manufacturing, power, and refining facilities are not easily replaced and major consumer purchases have long turnover cycles.

The chart beside me looks at the auto industry as an example. Invention must be followed by a prototype and a technology proveout phase and then by a phase-in to high volume as technology and cost hurdles are conquered. Because today's vehicles are so durable, it takes 15 to 20 years to turn over the fleet.

So based on past experience, technology development and deployment is unlikely to match the Kyoto targets and timetables. We're barely going to make a dent by 2010 - more than half of the vehicles being sold today will still be on the road.

I've focused on the technology side, but we have other concerns about the Protocol. The Administration is relying on concepts like emissions trading to lower overall cost. But the rules and guidelines for emissions trading have not been defined, and there was little if any progress on this issue at the recent meetings in Bonn. The European Union is arguing for significant limitations on any adopted trading scheme that would substantially increase the costs to American industry and the consumer.

And perhaps most importantly, the Administration assumes global participation when developing nations have continually made it clear that they will accept no commitments for them under the Protocol. As you know these nations will soon surpass the developed nations in greenhouse gas emissions. So no amount of effort by developed nations will significantly reduce global greenhouse gas emissions until we find a way to secure the participation of developing nations.

None of this means that industry or government should stand around and wring their hands. There's a lot that can be done and there's a lot we're doing today that is "directionally correct."

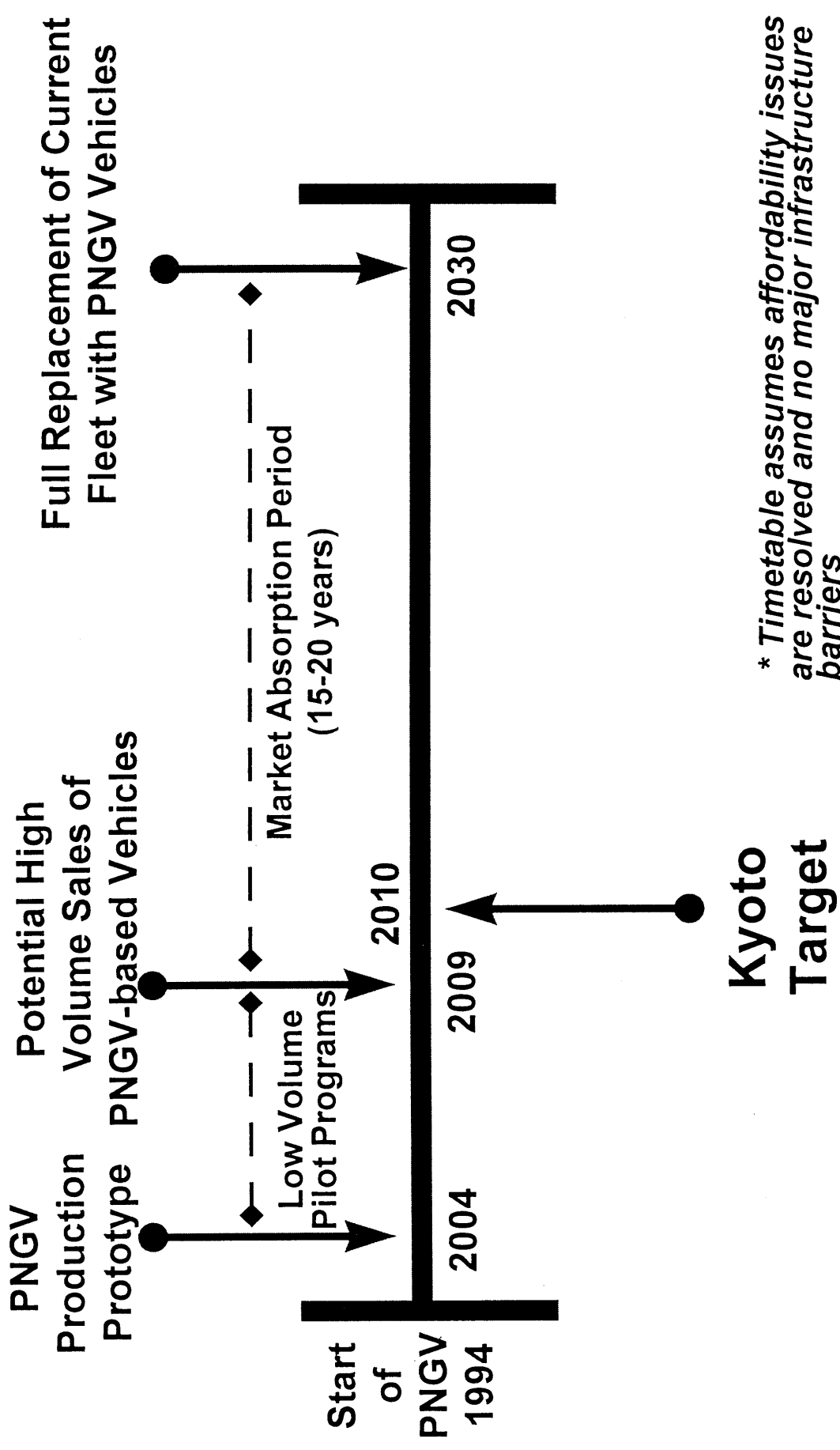
We at Ford are convinced that we are covering all the right technical bases. We have invested heavily in identifying and satisfying tomorrow's personal transportation needs in a cost-efficient and environmentally-friendly way. The bigger challenge is to bring home the technology, while continuing to meet customer needs. All of this coming during a period of essentially zero industry price increases. Customers are motivated by immediate costs, convenience, and family lifestyle preferences. Manufacturers must build products that will sell if we are to stay competitive.

On the government side, improving the scientific data base on which climate initiatives are based must be the top priority. There should be continued support of R&D on advanced energy technologies. Government also should help build markets for new technologies by buying alternative-fuel vehicles, for example. Government should rely on market-based mechanisms to spur technology and not resort to regulations and mandates in advance of congressional consideration of the Protocol. And government must recognize regulatory conflicts and find ways to resolve them without impeding promising technologies. In other words, government needs to facilitate, not impede the substantial technological progress already underway.

Climate change is an important issue ... and our goal of technological progress without economic damage can be achieved only by following a prudent course.

Thank you.

The Kyoto Protocol is Inconsistent with Real Technological Timetables....



Ford's Technological Initiatives...

- ***Industry Leader in Alternative Fuel Vehicles Sales***
- ***Partnership for a New Generation of Vehicles***
- ***P2000 Program***
- ***Fuel Cell Research Alliance***
- ***More Top Safety Ratings on U.S. Government Crash Tests than Any Other Manufacturer***
- ***Largest Private R&D Investment Program***